

Field guide to the frogs of Australia

by MJ Tyler and F Knight

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It's fair to say that amphibians are not faring too well at the moment. When compared with other taxa, a larger proportion of amphibians are considered at risk of extinction, with nearly a third of species categorised as 'globally threatened' (Stuart *et al.* 2004). The combination of numerous, often interacting factors, such as habitat fragmentation and loss, introduced species, climate shifts, and infectious disease, has led some workers to argue that we may be witnessing a 'mass extinction' of amphibians (Wake and Vrendenburg 2008). Even within our own backyard, some of our most familiar species, such as the Eastern Banjo Frog *Limnodynastes dumerilii* and the Southern Toadlet *Crinia signifera*, have experienced substantial declines over the past few decades (Mac Nally *et al.* 2009).

The first step towards conservation involves knowing your subject. Owing to a paucity of thorough field guides, even the seemingly straightforward task of species identification has been relatively complicated for herpetologists. However, respite is upon us with the release of Tyler and Knight's (2009) *Field Guide to the Frogs of Australia*.

This field guide has two distinct advantages over most frog guides: (1) it is comprehensive, including all 227 known frog species, and (2) it has illustrated plates rather than photographs, the latter being the norm in the vast majority of previous frog guides. Since the last comprehensive guide was published (Barker *et al.* 1995), over 20 new species have been described, highlighting the need for a revised version. Despite the new additions, the authors suggest that the taxonomy of Australian frogs remains far from complete, with perhaps another 15 species likely.

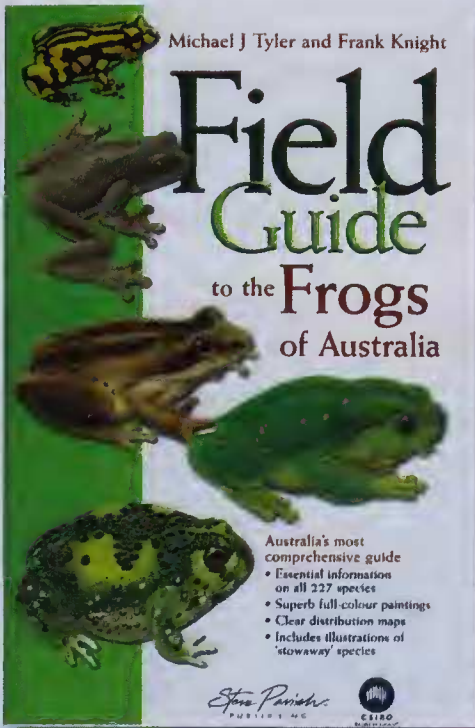
The introductory material includes the basics of frog biology, with a particular emphasis on anatomy, as well as some useful information on morphological differences between male and

female frogs. A short section on the six families of Australian frogs gives a good, albeit brief, summary of their morphology, history and distribution, including genera-specific information. A section on frog habitats will be particularly interesting to newcomers, as it highlights the remarkable diversity of areas that Australian frogs are able to inhabit, from swamps to arid shrublands.

The organisation of species accounts may come as a surprise to some herpetologists, many of whom will be accustomed to the alphabetical ordering of species in other Australian frog guides. Tyler and Knight have used an approach more familiar to ornithologists, by positioning morphologically similar species adjacent to each other, with alphabetic order being a secondary consideration. Although this makes locating species a little more time-consuming, it allows for a less complicated and more direct comparison of the morphological features that distinguish physically similar species.

Those familiar with Frank Knight's artistry (e.g. Menkhorst and Knight 2004; Pizzey and Knight 2007) won't be surprised that the plates are of high quality, with closely related species shown in a similar pose throughout. Both male and female morphs of species are shown where necessary, while for highly variable species, such as the Australian Lace-Lid *Nyctimystes dayi*, several morphs are presented. An oblique view of individuals (with the exception of a group of small *Litoria* species which are presented laterally) is sometimes complemented by a dorsal or ventral view, depending on their relevance to identification.

The short text on each species includes details on (where required): the snout to vent length of both males and females of the species; additional common names; details on different morphs; conservation status; distribution; habitat associations; advertisement calls; and similar species. Finally, a section on behaviour



provides details on (variously): characteristics of the spawn of species; time of year breeding occurs; and the habitats where breeding usually occurs. Other helpful aspects of this field guide include a glossary, a good reference list and, for those with an interest in developing a 'frog list', a checklist of genera and species.

Because no book review is complete without a little negativity, I did notice a couple of small errors here and there. For example, in the summary of the *Neobatrachus* genus it states that

the genus 'is confined to the southern portion of the continent'. However, if you flick to page 90 you'll see the Northern Burrowing Frog *Neobatrachus aquilonius* occurs in the Northern Territory and parts of northern Western Australia. However, such oversights are rare and minor.

Overall, Tyler and Knight have created a thorough and accessible guide, with a good balance between content and brevity. Australian herpetologists and frog enthusiasts finally have a field guide comparable to Australian bird and mammal guides. I anticipate this guide becoming a common acquisition by people interested in the biology and conservation of frogs, throughout Australia.

References

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One hundred years ago

WILSON'S PROMONTORY NATIONAL PARK. — The committee of management desires to obtain living native animals and birds for introduction into the National Park. Kangaroos, rock wallabies, and wombats, with the smaller marsupials, such as flying opossums, rat kangaroos, bandicoots, and pouched mice, are particularly desired. Among birds, emus, lyre-birds, bowerbirds, mallee-hens, &c, are desired. Further particulars can be obtained from the secretary of the park, Mr. J. A. Kershaw, National Museum, Melbourne.

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